

REMARKS

Claims 1-34 are pending and have been rejected. Claims 1, 17 and 26 have been amended. Claims 1-34 remain in the case.

Applicant respectfully requests that the foregoing amendments be made prior to examination of the present application, and respectfully requests reconsideration of the present application in view of the foregoing amendments and the reasons that follow. This amendment adds, changes and/or deletes claims in this application. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claim(s) remain under examination in the application, is presented, along with appropriate defined status identifiers.

Claims 1-34 are rejected under Section 103(a) based on Atchinson *et al.* (US 6,371,637) in view of Duggal *et al.* (US 2001-0033135). The examiner urges that Atchinson *et al.* discloses a method for providing a replaceable light source comprising the steps of manufacturing a light source (32) on a flat, flexible substrate (37) in a substantially two-dimensional configuration and flexing and removably placing the light source (2) in a curved three dimensional configuration within a lighting fixture. The examiner admits that Atchinson *et al.* do not disclose the method of shipping the light source, but he argues that “it was a well known and widely used practice to those of ordinary skill in the art to ship a two-dimensional product in a two dimensional configuration to simplify packing, and therefore would have been obvious to the same.” Duggal *et al.* is added for its teaching “analogous light source having light emitting materials between electrodes at least one of the electrodes being transparent, providing a thinner device.” The examiner urges that it would have been obvious to incorporate the light source of Duggal *et al.* into the method of Atchinson *et al.* in order to provide a thinner device.

Atchinson discloses a flexible printed circuit board with LEDs. Each LED in Atchinson is a point source. Thus, Atchinson refers to a “light emitting diode **array**.” The point sources are well illustrated in Figures 10a and 10b. Such light sources are made from rigid, crystalline silicon. See, for example, column 6, lines 41-46, which discloses LED 63 made of semiconductor material which might include GaP, GaAsP/GaP, GaAlAs or InGaAlP.

The presently-claimed *two-dimensional area* emitting light sources are distinguished from a *two-dimensional array* of point sources. In order to emphasize this distinction, claim 1

has been amended to recite “manufacturing an area emitting light source layer by depositing a flexible organic light emitting diode layer on a single, flat, flexible, two-dimensional substrate, said flexible organic light emitting diode layer including two electrodes. Support for “a single, flat, flexible, two-dimensional substrate” is found on page 3, lines 11-30. Support for “a flexible organic light emitting diode layer” is found on page 6, lines 7-8.

Atchinson does not teach manufacturing an area emitting light source by depositing a flexible organic light emitting diode layer on a single, flat, flexible, two-dimensional substrate, said flexible organic light emitting diode layer including two electrodes. Atchinson *et al.* teaches mounting of inorganic LED point light sources, which are rigid and inflexible (see above). They are not formed by depositing a flexible organic light emitting diode layer, but rather by mounting discrete inorganic LED point sources made of a semiconductor material on the flexible printed circuit board substrate of Atchinson *et al.* Indeed, Atchinson *et al.* teaches that polyimide stiffeners can be bonded to the flex circuit in order to rigidize surface mount areas on the flexible printed circuit board substrate. Such rigid surface mount areas are designed to provide an inflexible surface for attaching the LED point sources which, as noted above, are rigid. There is no deposition of a flexible organic light emitting diode layer on a flexible printed circuit board substrate in Atchinson *et al.*

Duggal *et al.* teaches an organic light emitting diode. The examiner urges that it would have been obvious to incorporate the OLED of Duggal *et al.* in the method of Atchinson *et al.* However, even were this substitution to be made, the result would not result in the present invention. Duggal *et al.* teaches an OLED with a light-extraction layer on the substrate opposite the organic materials. However, Duggal does not teach that the device can be flexed and removably placed into a curved three dimensional configuration within a lighting fixture. Indeed, Duggal *et al.* teaches that the OLED is formed on a glass substrate (paragraph 0092), includes a glass sealing layer (paragraph 0076), and that the transparent optical coupler to which the OLED is attached may be made of glass (paragraph 0046). Thus, the OLED of Duggal *et al.* is rigid, and Duggal *et al.* does not teach or suggest a flexible organic light emitting diode layer as presently claimed. The result when the OLED of Duggal *et al.* is placed on the flexible printed circuit board substrate of Atchinson does **not** meet the recitations of present claim 1.

The present invention provides an advantage in that an additional, flexible printed circuit board is not required for mounting the light sources to provide a curved light source.

Therefore, in the present invention, it is critical to require that the two-dimensional substrate area over which the materials are coated is itself flexible and flexed in the 3D configuration, not the underlying printed circuit board. There is no teaching in any of the cited references of forming a light source on a single flat, flexible, two-dimensional area and then flexing and removably placing the substrate in a curved three-dimensional configuration within a lighting fixture.

In summary, Atchinson *et al.* teaches the use of rigid inorganic LED point light sources made from rigid, crystalline silicon. Although each of these light sources is mounted on a flexible, printed circuit board, the light sources themselves are not flexible. Atchinson *et al.* does not deposit an organic light emitting diode layer on a flat, flexible substrate, but mounts individual inorganic LED point sources of a flexible circuit board. Moreover, Atchinson *et al.* does not teach removably placing the light source in a fixture; the device itself is the fixture. If Duggal *et al.* is combined with Atkinson *et al.*, then a plurality of rigid OLED light sources would be substituted for the rigid inorganic LED point sources of Atchinson *et al.* on the separate, flexible printed circuit board. In contrast, the present invention provides a single area-light-emitting substrate that is flexed and placed into a light fixture. No *prima facie* case of obviousness exists based on the combination of Atchinson *et al.* and Duggal *et al.*

If there are any problems with this response, or if the examiner believes that a telephone interview would advance the prosecution of the present application, Applicant would appreciate a telephone call. In view of the foregoing, it is believed none of the references, taken singly or in combination, disclose the claimed invention. Accordingly, this application is believed to be in condition for allowance, the notice of which is respectfully requested.

Respectfully submitted,

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AUGUST 25, 2008

DATE

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REG. NO. 31,640